



#6

SEQUENCE LISTING

<110> Scheinberg, Volker

<120> Targeted Enzyme Prodrug Therapy

<130> GC714

<140> US 10/022,097

<141> 2001-12-13

<150> US 60/279,609

<151> 2001-03-28

<150> US 60/255,774

<151> 2000-12-14

<160> 43

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 361

<212> PRT

<213> Enterobacter cloacae

<400> 1

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Thr	Pro	Leu	Met	Lys	Ala	Gln	Ser	Val	Pro	Gly	Met	Ala	Val	Ala	Val
		20						25					30		
Ile	Tyr	Gln	Gly	Lys	Pro	His	Tyr	Tyr	Thr	Phe	Gly	Lys	Ala	Asp	Ile
	35						40					45			
Ala	Ala	Asn	Lys	Pro	Val	Thr	Pro	Gln	Thr	Leu	Phe	Glu	Leu	Gly	Ser
	50					55					60				
Ile	Ser	Lys	Thr	Phe	Thr	Gly	Val	Leu	Gly	Gly	Asp	Ala	Ile	Ala	Arg
65					70				75						80
Gly	Glu	Ile	Ser	Leu	Asp	Asp	Ala	Val	Thr	Arg	Tyr	Trp	Pro	Gln	Leu
			85						90					95	
Thr	Gly	Lys	Gln	Trp	Gln	Gly	Ile	Arg	Met	Leu	Asp	Leu	Ala	Thr	Tyr
		100						105					110		
Thr	Ala	Gly	Gly	Leu	Pro	Leu	Gln	Val	Pro	Asp	Glu	Val	Thr	Asp	Asn
		115					120					125			
Ala	Ser	Leu	Leu	Arg	Phe	Tyr	Gln	Asn	Trp	Gln	Pro	Gln	Trp	Lys	Pro
	130					135					140				
Gly	Thr	Thr	Arg	Leu	Tyr	Ala	Asn	Ala	Ser	Ile	Leu	Gly	Phe	Gly	Ala
145					150					155					160
Leu	Ala	Val	Lys	Pro	Ser	Gly	Met	Pro	Tyr	Glu	Gln	Ala	Met	Thr	Thr
			165						170					175	
Arg	Val	Leu	Lys	Pro	Leu	Lys	Leu	Asp	His	Thr	Trp	Ile	Asn	Val	Pro
		180						185					190		
Lys	Ala	Glu	Glu	Ala	His	Tyr	Ala	Trp	Gly	Tyr	Arg	Asp	Gly	Lys	Ala
	195						200					205			
Val	Arg	Val	Ser	Pro	Gly	Met	Leu	Asp	Ala	Gln	Ala	Tyr	Gly	Val	Lys
	210						215					220			

Thr	Asn	Val	Gln	Asp	Met	Ala	Asn	Trp	Val	Met	Ala	Asn	Met	Ala	Pro
225					230					235					240
Glu	Asn	Val	Ala	Asp	Ala	Ser	Leu	Lys	Gln	Gly	Ile	Ala	Leu	Ala	Gln
				245					250						255
Ser	Arg	Tyr	Trp	Arg	Ile	Gly	Ser	Met	Tyr	Gln	Gly	Leu	Gly	Trp	Glu
			260					265					270		
Met	Leu	Asn	Trp	Pro	Val	Glu	Ala	Asn	Thr	Val	Val	Glu	Gly	Ser	Asp
		275					280					285			
Ser	Lys	Val	Ala	Leu	Ala	Pro	Leu	Pro	Val	Ala	Glu	Val	Asn	Pro	Pro
	290					295					300				
Ala	Pro	Pro	Val	Lys	Ala	Ser	Trp	Val	His	Lys	Thr	Gly	Ser	Thr	Gly
305					310					315					320
Gly	Phe	Gly	Ser	Tyr	Val	Ala	Phe	Ile	Pro	Glu	Lys	Gln	Ile	Gly	Ile
				325					330					335	
Val	Met	Leu	Ala	Asn	Thr	Ser	Tyr	Pro	Asn	Pro	Ala	Arg	Val	Glu	Ala
			340					345					350		
Ala	Tyr	His	Ile	Leu	Glu	Ala	Leu	Gln							
		355					360								

<210> 2
 <211> 8
 <212> PRT
 <213> Enterobacter cloacae

<400> 2
 Arg Leu Tyr Ala Asn Ala Ser Ile
 1 5

<210> 3
 <211> 8
 <212> PRT
 <213> Enterobacter cloacae

<400> 3
 Val His Lys Thr Gly Ser Thr Gly
 1 5

<210> 4
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 4
 gggcccggac atccaaagct tgtcgacagg aagcggaaca cgtagaaagc

50

<210> 5
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 5

aagcttttga tgtccgggcc cgaattcgtg tgaaattggt atccgctcac 50

<210> 6
 <211> 88
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<221> misc_feature
 <222> (1)...(88)
 <223> n = A,T,C or G

<400> 6
 ttccaggcat ggcggtggcc gttatttatn nsnnnsnnnsn nsnnnsnnns nnsaaaccgc 60
 actattacac atttggaag gccgacat 88

<210> 7
 <211> 88
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<221> misc_feature
 <222> (1)...(88)
 <223> n = A,T,C or G

<400> 7
 cgcgatgtcg gccttgccaa atgtgtaata gtgcggttts nsnnnsnnnsn nsnnnsnnnsn 60
 snnataaata acggccaccg ccatgcct 88

<210> 8
 <211> 74
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<400> 8
 ctaggtcttc tactagttta attgtcttag tcgtagctcc atctgcagtt gaagactctc 60
 tactggcggg ttg 74

<210> 9
 <211> 77
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<221> misc_feature
 <222> (1)...(77)
 <223> n = A,T,C or G

<400> 9
 cgcttgccgcc gttgcccgctg gcagaagtga atnnsnnsnn snnnsnnsns nnsnnstcct 60
 ggggccataa aactggc 77

 <210> 10
 <211> 77
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <221> misc_feature
 <222> (1)...(77)
 <223> n = A,T,C or G

 <400> 10
 tagagccagt tttatggacc caggasnnsn nsnnnsnnsnn snnnsnnsna ttcacttctg 60
 ccacgggcaa cggcgca 77

 <210> 11
 <211> 95
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <221> misc_feature
 <222> (1)...(95)
 <223> n = A,T,C or G

 <400> 11
 cgcttgccgcc gttgcccgctg gcagaagtga atnnsnnsnn snnnsnnsns nnsnnnsnns 60
 nsnnnsnnsnn snnstcctgg gtccataaaa ctggc 95

 <210> 12
 <211> 95
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <221> misc_feature
 <222> (1)...(95)
 <223> n = A,T,C or G

 <400> 12
 tagagccagt tttatggacc caggasnnsn nsnnnsnnsnn snnnsnnsns nnsnnnsnns 60
 nsnnnsnatt cacttctgcc acgggcaacg gcgca 95

 <210> 13
 <211> 95
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

 <221> misc_feature
 <222> (1)...(95)
 <223> n = A,T,C or G

 <400> 13
 cgcttgccg gttgccgtg gcagaagtga atsngdhcsn gdhcsngdhc aagdhcsngd 60
 hcsngdhcsn gdhctcctgg gtccataaaa ctggc 95

 <210> 14
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 14
 attcacttct gccacgggca acggcgca 28

 <210> 15
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 15
 tagagccagt tttatggacc cagga 25

 <210> 16
 <211> 84
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 16
 tggcccgcg cgcctaattg tcttaggcgg atgccatgtg cagtactaga agacggcgta 60
 tcgggtcaat gtatcagggt ctcg 84

 <210> 17
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 17
 agacaattag cggccgcggg ccatgt 26

<210> 18
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 18
cagccgagac cctgatacat tgaccgga

28

<210> 19
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<221> misc_feature
<222> (1)...(68)
<223> n = A,T,C or G

<400> 19
tggccccgga gnnsnnsnns nnsnnsnns ttaagcaggg catcgcgctg gcgcagtcgc
gctactgg

60
68

<210> 20
<211> 75
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<221> misc_feature
<222> (1)...(75)
<223> n = A,T,C or G

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tacgccagta gcgcgactgc gccagcgaga tgccctgctt aagsnnsnns nnsnnsnns
nctccggggc catgt

60
75

<210> 21
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<221> misc_feature
<222> (1)...(80)
<223> n = A,T,C or G

<400> 21
tggccccgga gnnsnnsnns nnsnnsnns nsnnnsnnsn settaagcag ggcatcgcg

60

tggcgcagtc gcgctactgg

80

<210> 22

<211> 87

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<221> misc_feature

<222> (1)...(87)

<223> n = A,T,C or G

<400> 22

tacgccagta gcgcgactgc gccagcgcca tgccctgctt aagsnnsnns nnsnnsnnsn
nnsnnsnnsn snnctccggg gccatgt

60

87

<210> 23

<211> 76

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 23

gtgttccagg tcttctacta gtttaattgt cttaggcgga tgccatgtgc tcgtagctcc
atctgcagtt gaagac

60

76

<210> 24

<211> 88

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<221> misc_feature

<222> (1)...(88)

<223> n = A,T,C or G

<400> 24

ttccaggcat ggcggtggcc gttatttatn nsnsnnsnns snnsnnsnns nnsaaaccgc
actattacac atttggaag gccgacat

60

88

<210> 25

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 25

ctaggtcttc tactagttta attgtcttag tcgtagctcc atctgcagtt gaagactctc
tactggcggg ttg

60

74

<210> 26
 <211> 95
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> synthetic oligonucleotide

 <221> misc_feature
 <222> (1)...(95)
 <223> n = A,T,C or G

 <400> 26
 cgcttgccg cc gttgcccggtg gcagaagtga atnnsnnsnn snnsnnsnns nnsnnsnnsn 60
 nsnnsnnsnn snnstcctgg gtccataaaa ctggc 95

 <210> 27
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> synthetic oligonucleotide

 <400> 27
 attcacttct gccacgggca acggcgca 28

 <210> 28
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> synthetic oligonucleotide

 <400> 28
 tagagccagt tttatggacc cagga 25

 <210> 29
 <211> 36
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic library sequence

 <221> VARIANT
 <222> (1)...(36)
 <223> Xaa = Any Amino Acid

 <400> 29
 Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Pro Pro Ala
 1 5 10 15
 Pro Pro Val Lys Ala Ser Trp Val His Lys Thr Gly Ser Thr Gly Gly
 20 25 30
 Phe Gly Ser Xaa

35

<210> 30
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic library sequence

<221> VARIANT
<222> (1)...(42)
<223> Xaa = Any Amino Acid

<400> 30
Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Glu Tyr Asp
1 5 10 15
Arg Arg Leu Asp Ala Ser Leu Cys Phe Val Lys Ser Trp Val His Lys
20 25 30
Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
35 40

<210> 31
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic library sequence

<221> VARIANT
<222> (1)...(42)
<223> Xaa = Any Amino Acid

<400> 31
Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Glu Gln Gln
1 5 10 15
Glu Glu Glu Ala Gly Thr Ser Lys Val Gly Pro Ser Trp Val His Lys
20 25 30
Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
35 40

<210> 32
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic library sequence

<221> VARIANT
<222> (1)...(42)
<223> Xaa = Any Amino Acid

<400> 32
Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Gln Gly Thr
1 5 10 15

Glu Leu Arg Phe Lys Leu Lys Leu Lys Arg Glu Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 33
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic library sequence

<221> VARIANT
 <222> (1)...(42)
 <223> Xaa = Any Amino Acid

<400> 33
 Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Arg Gly Leu
 1 5 10 15
 Pro Thr Trp Thr Ala Leu Val Glu Lys Pro Gly Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 34
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic library sequence

<221> VARIANT
 <222> (1)...(42)
 <223> Xaa = Any Amino Acid

<400> 34
 Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Ala Ile Arg
 1 5 10 15
 Val Asp Leu Gly Pro Ser Ser Arg Ser Arg Arg Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 35
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic library sequence

<221> VARIANT
 <222> (1)...(42)
 <223> Xaa = Any Amino Acid

<400> 35
 Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Ala Thr Asn
 1 5 10 15
 Thr Thr Ser Asp Glu Val Val Gly Thr Gln Lys Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 36
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic library sequence

<221> VARIANT
 <222> (1)...(42)
 <223> Xaa = Any Amino Acid

<400> 36
 Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Tyr Thr Ser
 1 5 10 15
 Val Gly Ala Gly Trp Arg Ala Gln Ala Val Gly Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 37
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic library sequence

<221> VARIANT
 <222> (1)...(42)
 <223> Xaa = Any Amino Acid

<400> 37
 Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Gly His Arg
 1 5 10 15
 Val Val Pro Ser Tyr Leu Val Arg His Asp Ser Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 38
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic library sequence

<221> VARIANT

<222> (1)...(42)
 <223> Xaa = Any Amino Acid

 <400> 38
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 1 5 10 15
 Asn Thr Ser Thr Ile Met Pro Arg Ser Pro His Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 39
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic library sequence

<221> VARIANT
 <222> (1)...(42)
 <223> Xaa = Any Amino Acid

<400> 39
 Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu Val Asn Gly Gly Arg
 1 5 10 15
 Lys Asp Gly Trp Pro Arg Gln Gly Lys Glu Gly Ser Trp Val His Lys
 20 25 30
 Thr Gly Ser Thr Gly Gly Phe Gly Ser Xaa
 35 40

<210> 40
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> loop library sequence

<221> VARIANT
 <222> (1)...(14)
 <223> Xaa = Any Amino Acid

<400> 40
 Xaa Glx Xaa Glx Xaa Glx Lys Glx Xaa Glx Xaa Glx Xaa Glx
 1 5 10

<210> 41
 <211> 95
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<221> misc_feature
 <222> (1)...(95)

<223> n = A,T,C or G

<400> 41

cgcttgccg cc gttgcccgtg gcagaagtga atsngdhcsn gdhcsngdhc aagdhcsngd 60
hcsngdhcsn gdhctcctgg gtccataaaa ctggc 95

<210> 42

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 42

attcacttct gccacgggca acggcgca 28

<210> 43

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 43

tagagccagt tttatggacc cagga 25